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EDITORIAL

Special issue on water resources in arid areas

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Growing world population, water-intensive diets, and rising of living standards have increased global demand for water and consequently exerted pressure on water resources. The situation in arid areas is much aggravated as evaporation rates exceed natural recharge and therefore water resources are continuously depleting. The water budget deficit in arid areas, the high cost of water supply, the essential need for food, and associated energy value among other challenges all need to be scientifically addressed to propose solutions to world current and future water problems. Multidisciplinary and interdisciplinary fundamental and applied scientific research is essential to help in alleviating water problems. Such research entails the engineering sciences, atmospheric sciences, agrosciences, hydrology, and geology while social sciences are important to address institutional, policy, and management issues.

Considering the above challenges and developments, this special issue of the Arabian Journal of Geosciences focuses on some aspects of water resources in the arid areas and aims to present a range of articles that is broadly representative of the current state of knowledge in research and operations on water resources in the arid areas. Articles were solicited via the international conference "Water Resources in Arid Areas: The Way Forward" which was held in Muscat, Oman, and organized by the Water Research Center at Sultan Qaboos University.

The 23 articles in this special issue cover eight main themes namely: climate impact on water resources, salinity and desalination, water resource management, wastewater treatment and reuse, rainfall and flash flood, water quality and pollution, agriculture and irrigation management, and coastal aquifer management. The advancement of water science in the arid regions has been reflected in the new trend of using integrated hydrological, geochemical, and geophysical approaches. This special issue combines the latest knowledge and technology on all aspects of monitoring, modeling, and management in addressing water scarcity issues in arid areas.

This article is part of the Topical Collection on *Water Resources in Arid Areas*

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